

REMARKS

The Office Action dated July 12, 2005, has been received and carefully noted. The above amendments to the claims and the following remarks are submitted as a full and complete response thereto.

Claims 24-28 have been added. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 14-23 have been allowed. Claims 1-13 and 24-28 are submitted for consideration.

Claim 1 was rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,711,143 (Balazinski). The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claim 1.

Claim 1, upon which claims 2-13 depend, recites a method of communicating data between a Base Station System (BSS) and a Serving GPRS Support Node (SGSN). The method includes the step of providing protocol data and associated functions, including encapsulating a data packet with a User Datagram Protocol (UDP) and a Internet Protocol (IP). The UDP includes a UDP port associated with a Network Service Virtual Connection (NS-VC), and the IP provides an IP address associated with a Network Service Entity (NSE). The method also includes the step of transmitting the data packet provided with the protocol data.

As outlined below, Applicant submits that the cited reference of Balazinski does not teach or suggest the elements of claim 1.

Balazinski teaches a method of converting a Gb interface to IP while continuing to support Frame Relay and without adversely affecting the interface's performance. Col. 3, lines 19-21. Instead of encapsulating Frame Relay information in IP packets, Balazinski modifies the lower NS sub-layer. Col. 3, lines 21-24. Balazinski includes a Base Station System (BSS) and a Serving GPRS Support Node (SGSN) both of which use a protocol stack including a physical layer, a network service (NS) layer including a NS-Sub-Network Service (NS-NSS) layer and a NS-Sub-Network Control (NS-NSC) layer, and Base Station System GPRS Protocol (BSSGP) layer. Col. 3, lines 27-40. The primary function of the BSSGP layer is to provide radio-related QoS, and routing information that is required to transmit user data between a BSS and an SGSN. Col. 3, lines 41-45. On the BSSGP layer, there are a Point-to-Point (PTP) functional entity, a Point-to-Multipoint (PTM) functional entity and a signaling (SIG) functional entity. Col. 3, lines 64-67. The existing NS layer adapts the BSS to the Frame Relay protocol and the main function of the NS layer is to provide transportation for BSSGP Virtual Circuits (BVC) over a Frame Relay network. Col. 4, lines 15-18. The primary functions of the existing NS-NSC sub-layer are transmission of NS Service data units (SDU), load sharing between different NS virtual circuits and NS virtual circuit management. The primary functions of the existing NS-SNS layer are providing access to the Frame Relay network or the NSE peer identity by means of a Network Service-Virtual Link (NS-VL), providing NS virtual circuits

between peer NSEs, transferring NS SDUs in sequence order on each NS virtual circuit unless order is not required and indicating to the upper layer the availability/unavailability of an NS virtual circuit. Col. 4, lines 42-67. The protocol stack includes a physical layer, a link layer, an Internet Protocol (IP) Layer, a User Datagram Protocol (UDP) layer, a modified NS layer that is divided into an NS-SNS layer and an NS-NDC layer and the BSSGP layer which is unchanged from the existing protocol stack. Col. 5, lines 1-6.

Balazinski transports information from the SGSN functional entities to the BSS functional entities and instead of using Frame Relay virtual circuits, uses IP packets following multiple routes between end points over a connectionless IP network. The modified Gb interface uses a USP layer over an IP layer. One UDP port is reserved in order to make the modified NS layer and the BSSGP layer act as an application over the IP stack. Col. 5, lines 14-48.

Applicants submit that Balazinski simply does not teach or suggest each of the elements recited in claim 1. Claim 1, in part, recites the UDP includes a UDP port associated with a Network Service Virtual Connection (NS-VC). The Office Action cites Col. 4, lines 57-63 and Col. 5, lines 47-48 of Balazinski as teaching that a “single UDP port carries NSEI and **hence is associated with** the NSE and **the NS-VC.**” However, Applicants submit that the cited sections of Balazinski are silent as to the teaching alleged by the Office Action. In Col. 4, lines 57-63, Balazinski lists the existing NS-SNS sub-layer primary functions in the existing Gb over the Frame Relay (where the term “existing” refers to the prior art). Col. 4, line 63 of Balazinski discloses that one of the

functions is “providing NS virtual circuits between peer NSEs”. Col. 4, lines 57-63 of Balazinski is totally silent about UDP and a UDP port associated with a NS-VC as recited in claim 1. In Col. 6, lines 29-38, Balazinski lists functions of NS’_SNS sub-layer. Col. 5, lines 50-51 of Balazinski teaches that the NS’-SNS sub-layer replaces the existing NS-SNS sub-layer. These sections of Balazinski are totally silent about NS-VCs. Furthermore, Col. 5, lines 47-48 of Balazinski teaches that the invention of Balazinski carries the BVCI and NSEI over one single UDP port. This section of Balazinski is also totally silent about UDP and a UDP port associated with a NS-VC as recited in claim 1.

Furthermore Col. 6, lines 45-55 of Balazinski teaches a view of the “IP-based Gb” interface of the present invention” and that “the virtual circuit management function is no longer performed since virtual circuits are not used in IP.” Hence, Applicants submit that Balazinski has omitted the NS-VC concept from the solution provided by the teachings of Balazinski. The present invention, on the other hand, provides for NS-VC, including multiple NS-VCs per NSE and its relationship to Gb/IP addressing. Paragraph 0035 of the present invention discloses “NSE of Gb interface 100 utilizing UDP associates **UDP ports, such as a source and destination UDP port, with NS-VC 140, 142, 144 and 146** for peer-to-peer communication between BVC 152A and 152B and peer-to-peer communication between BVC 154A and 154B. The present invention further teaches that **UPD ports (i.e. a source and destination UDP port)** are associated with NS-VC; therefore, NS-VC transporting data between BVC may be identified as handling data designated as either real time or non-real time services and that a **particular NSE**

providing service to BVC 152A, 152B or 154B may be identified by **an IP address, such as a source and destination IP address**. Balazinski proposes one UDP port and one IP address per NSEI and discuss the option of using UDP port per each BVCI. The present invention, on the other hand, discloses and recites that a UDP port (such as, a source and destination UDP port) is associated with NS-VC and IP address (such as, a source and destination IP address) is associated with NSE. Thus, Applicants submit that while Balazinski clearly proposes a solution which does not allow for using multiple NS-VCs per NSE but uses a single logical connection identified by one UDP port instead, the present invention discloses having multiple NS-VCs per NSE, applied with UDP/IP by using different UDP ports to differentiate the NS-VCs. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §102(e) should be withdrawn because Balazinski fails to teach or suggest each feature of claim 1.

Claims 2 and 5-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Balazinski in view of the admitted prior art of WO 99/16266 (Forslow). According to the Office Action, Balazinski teaches all of the elements of claims 2 and 5-13 except for explicitly showing the method of communication as recited in claim 1, wherein the UDP port is identified as either for real-time or non-real-time services. Therefore, the Office Action combined the teaching of Balazinski and Forslow to yield all of the elements of claims 2 and 5-13. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claim 1.

Claims 2 and 5-13 depend on claim 1 and thus incorporate all of the elements of claim 1. Forslow does not cure the deficiencies of Balazinski, as outlined above. Applicants submit that there is no discussion or suggestion in Forslow that the UDP includes a UDP port associated with a Network Service Virtual Connection (NS-VC) as recited in claim 1. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Balazinski nor Forslow, whether taken singly or combined, teaches or suggests each feature of claim 1 and hence, dependent claims 2 and 5-13 thereon.

Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Balazinski in view of U.S Patent No. 6,636,502 to (Lager). According to the Office Action, Balazinski teaches all of the elements of claim 3 except for explicitly showing the method of communication as recited in claim 1, wherein the data packet is associated with a Temporary Logical Link Identifier (TLLI) and a Network Service Access Point Identifier (NSAPI). Therefore, the Office Action combined the teaching of Balazinski and Lager to yield all of the elements of claim 3. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claim 1.

Claim 3 is also dependent on claim 1 and thus incorporates all of the elements of claim 1. Lager does not cure the deficiencies of Balazinski, as outlined above. Applicants submit that there is no discussion or suggestion in Lager that the UDP includes a UDP port associated with a Network Service Virtual Connection (NS-VC) as

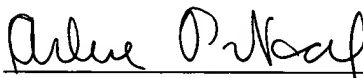
recited in claim 1. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Balazinski nor Lager, whether taken singly or combined, teaches or suggests each feature of claim 1 and hence, dependent claim 3.

As noted previously, claims 1-13 and 24-28 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-13 and 24-28 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for a Three-Month Extension of Time
RCE Transmittal
Check No. 13896